SECRET

STAT

16 Dec 1980

TOPIC: RMS Resource Allocation Techniques

REASON: RMS should take the community lead in developing and applying
innovative techniques for both building and evaluating NFIP programs and
budgets.

OBJECTIVES: The overall objective of the study would be to propose and assess
alternative ways of improving the process by which NFIP budget is created. The
near term objective would focus on improving RMS procedures in one particular
area -- namely, how we revise the final 1-N rankings to incorporate issue paper
decisions and NFIB/PRC(I) judgments. In the longer term, we would also like to
examine other facets of the process, including the feasibility of developing:

o   common measures the program managers might use to evaluate and
     justify their program submissions,

o   ways to better evaluate program managers' responsiveness to DCI
     decisions,

o   ways to better structure criteria used to select issues, and

o   alternative formats for structuring NFIP and PRC(I) discussions to
     better elicit their opinions.

APPROACH:

1.   Background Studies

     o   The MATHTECH study in 1979 examined and endorsed current
          procedures used to mechanically interleave the individual
          program rankings to create the initial 1-N listing.

     o   Decision analysis course described a quantitative approach used
          by Army to create its ZBB ranking. The methodology stimulated
          questions as to whether an analogous approach might be used in
          RMS.

     o   Ranking approach used in OSD/Policy as reported on by Frank
          Danowski and Jim Rawers.

STAT

STAT

SECRET

WORKING PAPER

SECRET

o   Article in Behavioral Science, on "A Theory of Analytical
    Hierarchies Applied to Political Candidacy", by T. L. Saaty and
    J. P. Bennett, Vol 22, 1977, which describes one ranking
    technique.

STAT

2.   Work Breakdown

     Phase I of the study will focus on the short-term objective of trying
to improve the mechanism by which decisions resulting from issue papers
are incorporated in the final 1-N NFIP ranking. Tasks envisioned include:

   (a)   reviewing the results and relevancy of the Background Studies
         listed above,

   (b)   documenting in detail the steps (and associated timelines) by
         which the final FY82 NFIP rankings submitted to the President
         evolved from the original Program Managers' rankings and budget
         decisions,

   (c)   examining how other agencies (both in and outside the
         intelligence community) implement ZBB ranking,

   (d)   testing alternative procedures (including quantitative
         techniques) against the conditions prevalent during the FY82
         budget development to determine the advantages and disadvantages
         of the alternative approaches, and

   (e)   summarizing the results in a final written report for the
         D/DCI/RM.

     Depending on the success of the initial Phase I effort and the depth
of information gathered in discussing ZBB implementations among other
users, a longer term, Phase II effort, could be pursued on the other
topics listed above.

SECRET

WORKING PAPER

SECRET

3. Methodology

The overall methodology for Phase I, as implied in the Work Breakdown discussion, is to improve the ranking process by identifying techniques used in other agencies as well as quantitative techniques that might apply to the problem, and by testing these techniques in the RMS environment. Quantitative approaches which might be considered include:

- multi-attribute decision theory,

- Bayesian decision theory, or

- hierarchical comparison techniques.

The goal in applying any new approaches would be to better structure, not replace, the subjective opinions of individuals attempting to assess how alternative rankings of decision packages at risk (i.e., those close to the likely NFIP funding level) affect "mission areas" or "themes" important to the DCI and the NFIB. For example, in the FY82 budget development, a desirable technique would specifically highlight the impact that alternative final rankings might have on packages in the $6.4B to $7.1B range which contribute to Third World production. Organizationally, the assessments could be done by teams composed of representatives from PBO, PAO, IRO, and PGS who are interested in particular areas.

IMPACT: The study will suggest ways to improve procedures used within RMS to generate the NFIP budget. Implementation of some recommendations may require changes in the scheduling or formats of submissions currently requested of the Program Managers.

SCHEDULE: It is estimated that Phase I will require about 4 man-months of effort. An interim report covering items (a) - (c) above will be completed in March 1981. A final report will be available in May 1981, to permit partial implementation during the FY83 budget cycle.

STAFFING:

STAT

Team Leader

Analysts:

SECRET

WORKING PAPER